ABSTRACT OF THE DISCLOSURE

A transmission line capacitor includes at least two side-by-side capacitor portions spaced apart between a separating portion all contained in a single monolithic body. Such transmission line capacitors provide specific capacitor functionality for parallel transmission lines in a printed circuit board environment, while also maintaining a desired impedance value between the transmission paths. The transmission line capacitors offer both biasing functionality for blocking undesired DC voltages as well as AC coupling functionality for passing AC voltage signals with preserved data integrity. A first embodiment may be formed with a dielectric material having a relatively low dielectric constant, allowing high capacitor "height" with fixed spacing between distinct capacitive structures. Another embodiment may be formed with a relative high K dielectric and then slotted with an air gap between capacitive structures. Yet another embodiment may be formed with a relatively high K dielectric material, and with a relatively low K material provided in between capacitive structures. A still further embodiment concerns a transmission line capacitor design formed with high K and low K dielectric materials punched into a monolithic thin-film device.